REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claim 1 has been cancelled. Claims 2-8 have been allowed. Claim 9 has been amended to depend from Claim 2, and so Claims 9-15 are also allowable. Additionally, Claim 18 has been amended to incorporate the subject matter of Claim 2 and is also believed to be allowable.

Claims 16, 17 and 19 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. patent 6,937,781 (Shirane et al). According to the feature of Claim 16, a light control element comprises a substrate having a photonic crystal structure, a plurality of optical waveguides formed in the photonic crystal structure in the form of a line defect of the photonic crystal structure, and a variable refractive index part formed in an optical coupling part. The optical waveguides intersect with each other, wherein the light control element controls a state of resonance in the optical coupling part by changing a refractive index of the refractive index variable part.

Claim 16 now further recites that the optical coupling part forms an intersection point. For example, in the illustrative embodiment of Fig. 15, optical waveguides 133 are formed by a line photonic crystal defect such that the optical waveguides 133 cross with each other. In such a structure in which plural optical waveguides 133 of photonic crystal line defect cross with each other, there is caused an optical resonance state in the part 134 where the optical waveguides 133 cross with each other (paragraph bridging pages 72-73).

Shirane et al fails to teach a variable refractive index part formed in an optical coupling part forming an intersection point where optical waveguides intersect with each other. Instead, Shirane et al induces a refractive index change at two locations corresponding to the electrodes 36 and 36' that are spaced from the Y-shaped branching point (col. 8, lines 20-27). Amended Claim 16 thus clearly defines over this reference.

Claim 19 similarly now recites an optical coupling part formed in each of the intersections of optical waveguides, the optical coupling part forming an intersection point where the optical waveguides intersect with reach other, each of said optical coupling parts forming a variable refractive index part. Again, Shirane et al instead induces a refractive index change at two locations corresponding to the electrodes 36 and 36' that are spaced from the Y-shaped branching point, and so amended Claim 19 also defines over this reference.

Claim 17 now recites a feature whereby the photonic crystal is divided into plural regions by defective waveguides and each of the regions is divided by a diagonal line into a first photonic crystal part and a second photonic crystal part that can change the refractive index thereof independently. See, for example, Fig. 16 and page 73, line 25 to page 75, line 4.

Contrary to claim 17, Shirane et al merely describes changing of the refractive index at two locations where the electrodes 36 and 36' are provided as noted before, and is entirely silent about the foregoing feature of the present invention. Accordingly, amended Claim 17 also defines over this reference.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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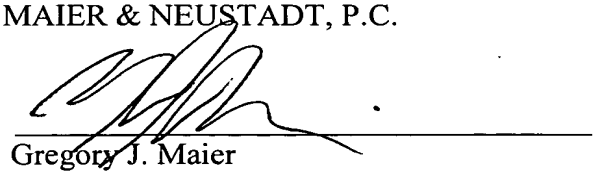

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